REMARKS

Claims 1-29 and 36-56 were pending when the Office Action was mailed. Applicants herein amend claims 1, 36, and 49 and do not cancel any claims or present any new claims. Accordingly, claims 1-29 and 36-56 remain pending.

Applicants would like to thank the Examiner for the consideration extended during the interview conducted on February 3, 2009. During the interview, Examiner Kawsar, Maurice Pirio, and Anthony Johnson discussed applicants' technology in general and the proposed amendments to claim 1. As requested by the Examiner, applicants have amended the claims to further clarify the claimed subject matter. Should the Examiner have any questions or need any additional information regarding the interview, he is encouraged to contact Maurice Pirio at (206) 359-8548.

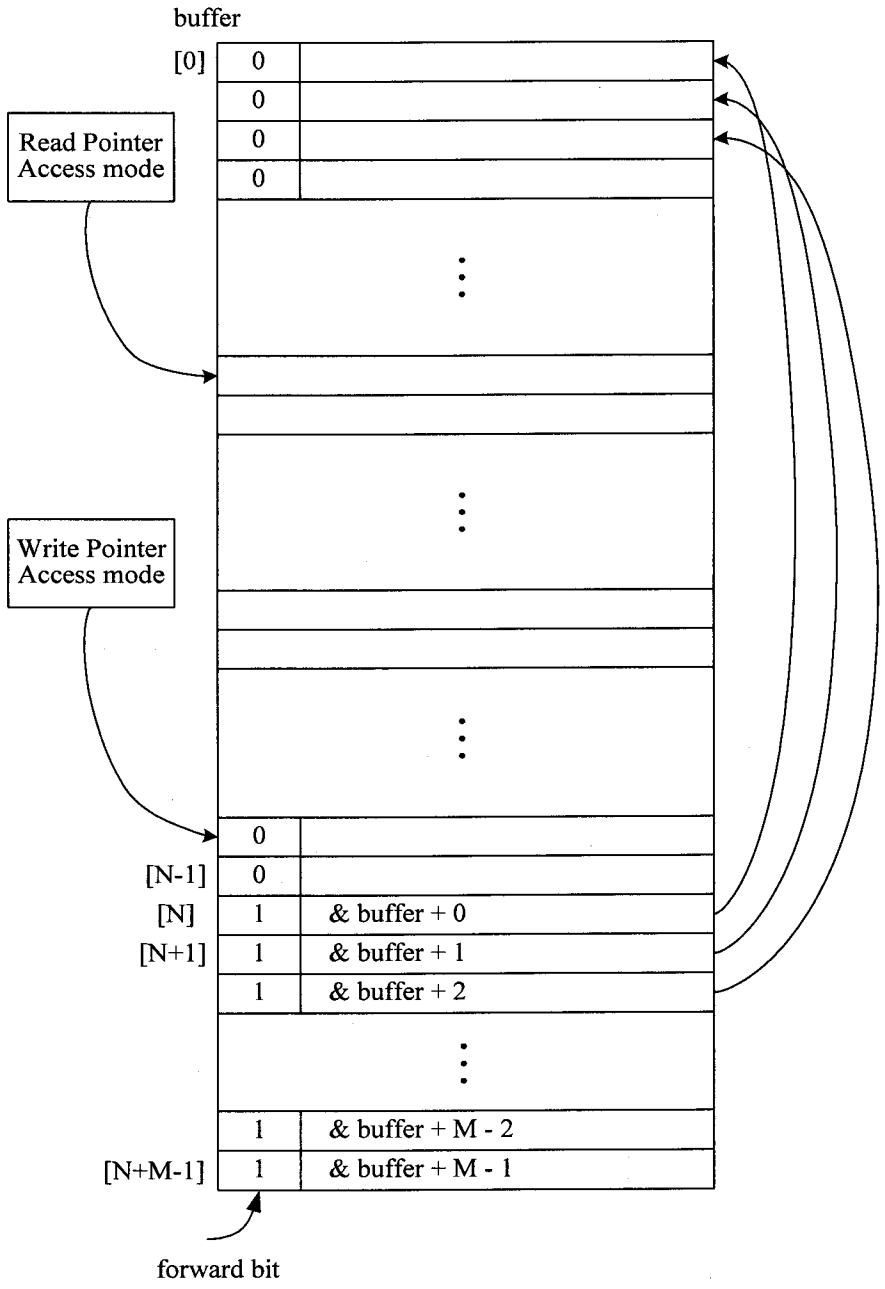
The Office Action rejects claims 1-29 and 36-48 under 35 U.S.C. § 112, second paragraph. Applicants herein amend these claims to address the Examiner's concerns and respectfully request that the Examiner withdraw these rejections.

The following table reflects the remaining rejections presented in the Office Action:

Claims	Basis	References
49-52	102(e)	Soell
36, 48	103(a)	Soell and Badger
1-9, 13, 22-26, 38-44, and 53-56	103(a)	Soell, Badger, and Niu
10-12 and 45-47	103(a)	Soell, Badger, Niu, and Johnson
14-21	103(a)	Soell, Badger, Niu, Ray, and Rahman
27-29	103(a)	Soell, Badger, Niu, and Drews
37	103(a)	Soell, Badger, and Drews

Applicants respectfully traverse these rejections. Nevertheless, applicants herein amend the claims to clarify the subject matter for which they seek protection.

Applicants provide a technique for forwarding attempts to access words past the end of a circular buffer to words within the buffer. Applicants' technique stores in "forwarding words" located adjacent to the end of a circular buffer, pointers to words in the buffer. When an attempt to access the buffer extends beyond the end of the buffer and into a forwarding word, applicants' technique redirects the access to the location within the buffer the pointer stored in the forwarding word points to. The figure on page 13 provides an illustration of a sample embodiment of applicants' technology. In this example, the buffer has N locations represented by locations [0] through [N-1]. M forwarding words, which store pointers to words within the buffer, are stored in the M words adjacent to the end of the buffer. As an example, the pointers associated with the first three forwarding words are depicted as arrows in the figure to the right of the buffer. These forwarding words, represented by locations [N] through [N+M-1], have a "forward enable bit" set so that when they are accessed, the access is redirected, or forwarded, to the buffer location to which the pointer stored in the accessed forwarding word points. For example, when the forwarding word at location [N+1] is accessed, the access is automatically forwarded to the word in the buffer at address &buffer+1 (i.e., location [1]). In this manner, the buffer can be accessed successfully without checking for the end of the buffer.



As an example, if a process attempts to write three words in the buffer depicted above, the first word would be written to the location pointed to by the write pointer,

location [N-2], and the second word would be written to the location immediately following the location pointed to by the write pointer, location [N-1]. The next write attempt would be to the next location, location [N]. Because location [N] has its forward enable bit set, the write attempt would be redirected to the buffer location pointed to by the pointer stored in location [N], in this case location [0]. Accordingly, when a process attempts to access a word beyond the end of a buffer, applicants' technique redirects the access to a word within the buffer so that the access can perform successfully.

Claim 1 recites "providing a number of forwarding words located adjacent to an end of the buffer ... each forwarding word storing a pointer to a word within the buffer." The Office Action relies on Soell at 3:14-16, 42-60, 4:9-13, and 5:25-32 as disclosing these features. Applicants respectfully disagree. Soell does not store pointers to words in a buffer. The relied-upon portions of Soell describe an extended bit string and the relationship between the extended bit string and the active bit string. The Examiner seems to believe that either the active bit string or the extended bit string store pointers to words in Soell's buffer. Applicants respectfully disagree with the Examiner's interpretation of Soell. Both the active bit string and the extended bit string are a string of bits, each bit corresponding to a position in the buffer. Although the bits are associated with buffer positions, Soell does not store pointers to positions in the buffer in either the active bit string or the extended bit string. Soell forwards bits from the active bit string to the extended bit string using forwarding logic of an "unfold circuit" that forwards bits based on the wrap-around status of the buffer and the location of an associated buffer position. Soell's active bit string, however, does not store pointers to the extended bit string or Soell's buffer. Accordingly, Soell does not forward bits from the active bit string to the extended bit string or Soell's buffer based on pointers stored within the active bit string.

Furthermore, applicants are unable to find any portion of Soell that teaches or suggests storing any information adjacent to the end of the buffer. In the Response to Arguments section, the Office Action asserts that "Applicant does not disclose in the

claims storing any information past the end of the buffer or having any access past the end of the buffer." Applicants respectfully disagree. Claim 1 recites "providing a number of forwarding words located adjacent to an end of the buffer in the memory, each forwarding word having an associated enabled forwarding bit and each forwarding word storing a pointer to a word within the buffer" and "when a word is to be accessed, retrieving the forwarding bit associated with the word to be accessed" and "when it is determined that the retrieved forwarding bit is enabled, retrieving the pointer stored in the word and directing the access to the word within the buffer pointed to by the retrieved pointer." Thus, claim 1 clearly describes storing information past the end of a buffer and accessing that information. The Office Action fails to point to any portion of any reference that teaches or suggests these features. Accordingly, claim 1 is patentable over the applied references, as are its dependent claims 2-29.

Claim 36 now recites "a component that stores in each of a set of forwarding words located adjacent to an end of a buffer, an address of a location within the buffer." The Office Action relies on Soell at 3:14-16, 42-60, 4:9-13, and 5:25-32 as disclosing these features. Applicants respectfully disagree that the relied-upon portions of Soell disclose these features. Soell does not store pointers to words in a buffer. The relied-upon portions of Soell describe an extended bit string and the relationship between the extended bit string and the active bit string. The Examiner seems to believe that either the active bit string or the extended bit string store pointers to words in Soell's buffer. Applicants respectfully disagree with the Examiner's interpretation of Soell. Both the active bit string and the extended bit string are a string of bits, each bit corresponding to a position in the buffer. Although the bits are associated with buffer positions, Soell does not store pointers to positions in the buffer in either the active bit string or the extended bit string. Soell forwards bits from the active bit string to the extended bit using forwarding logic of an "unfold circuit" that forwards bits based on the wrap-around status of the buffer and the location of an associated buffer position. Soell's active bit string, however, does not store pointers to the extended bit string or Soell's buffer.

Accordingly, Soell does not forward bits from the active bit string to the extended bit string or Soell's buffer based on pointers stored within the active bit string.

Furthermore, applicants are unable to find any portion of Soell that teaches or suggests storing any information adjacent to the end of the buffer. In the Response to Arguments section, the Office Action asserts that "Applicant does not disclose in the claims storing any information past the end of the buffer or having any access past the end of the buffer." Applicants respectfully disagree. Claim 36 recites "a component that stores in each of a set of forwarding words located adjacent to an end of a buffer, an address of a location within the buffer," "a component that enables a forwarding bit associated with each of the forwarding words," and "a component that, for each word to be accessed, retrieves the forwarding bit associated with the word to be accessed" and "when it is determined that the retrieved forwarding bit is enabled, retrieves the pointer stored in the word and directs the access to the word within the buffer pointed to by the retrieved pointer." Thus, claim 36 clearly describes storing information past the end of a buffer and accessing that information. The Office Action fails to point to any portion of any reference that teaches or suggests these features. Accordingly, claim 36 is patentable over the applied references, as are its dependent claims 37-48.

Claim 49 recites "a number of forwarding words adjacent to the end of the buffer." The Office Action relies on Soell at 1:23-26 and 53-58 as disclosing this feature. The relied-upon portions of Soell, however, describe the conditions in which wrap-around occurs, the effect of wrap-around, and the function of the in-pointer. Soell's in-pointer defines the head of the circular buffer and is incremented whenever a new entry is written to the buffer. (Soell, 2:53-57). When a sequence of entries extends beyond the last entry position of a buffer, wrap-around occurs and new entries "are accommodated in the first entry positions of the buffer." (Soell, 1:23-26). Soell, however, does not describe how its technique determines that an access has extended beyond the last entry of the buffer. Soell may check for the end of the buffer by, for example, comparing the address of the buffer location to which the in-pointer points to

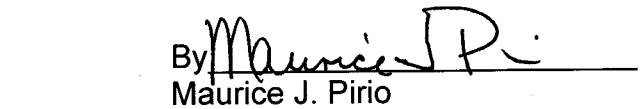
the address of the last buffer location or comparing the number of writes to the size of the buffer. When the end of the buffer is reached, Soell's technique may automatically set the in-pointer to the first position in the buffer. Soell provides no indication that a forwarding word, or any other information, is stored adjacent to the end of the buffer. In the Response to Arguments section, the Office Action asserts that "Applicant does not disclose in the claims storing any information past the end of the buffer or having any access past the end of the buffer." Applicants respectfully disagree. Claim 49 recites "a number of forwarding words adjacent to the end of the buffer" and "when a forwarding is accessed, retrieving the pointer stored in the forwarding word and directing the access to the word within the buffer pointed to by the retrieved pointer." Thus, claim 49 clearly describes storing information past the end of a buffer and accessing that information. The Office Action fails to point to any portion of any reference that teaches or suggests these features. Accordingly, claim 49 is patentable over Soell, as are its dependent claims 50-56.

In view of the above amendments and remarks, applicants believe the pending application is in condition for allowance and respectfully request reconsideration.

Please charge any deficiency in fees or credit any overpayment to our Deposit Account No. 50-0665, under Order No. 324758003US7 from which the undersigned is authorized to draw.

Dated: March 4, 2009

Respectfully submitted,

By 

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